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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,563

04/20/2005

Anatol Schwersenz

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8758

7590 10/09/2007
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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,563

Applicant(s)

SCHWERSENZ ET AL.

Examiner

Yewebdar T. Tadesse

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-52 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 30-52 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig 1 is a photograph wherein items shown in drawing are not visible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 30-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 30, the limitation that "the planes of the flat surfaces cross above the nozzle assembly in the area of the nozzle body" is new matter. The original specification does not mention "planes" crossing the nozzle assembly in the area of the nozzle body. Applicants' Fig 5 shows two dotted lines showing the acute angle between the flat surfaces of the guide plate and the nozzle body. As shown in Fig 5 the lines extending above the assembly would cross somewhere but it is difficult to tell. However, for the planes of the flat surfaces to cross above the assembly, the flat surfaces would have to not be in contact. If they are in contact, then it seems that their planes would cross within the assembly and not above the assembly. For the purpose of examination "the flat surfaces cross within the assembly" is assumed.

In claim 51, the phrase "opening and closing pre-determined nozzles, in particular, the outermost nozzles" is unclear because it is unclear if the mechanism opening and closing all predetermined nozzles or only the outermost nozzles. For the purpose of examination "opening and closing pre-determined nozzles" is assumed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 30, 34, 44 and 47-48 are rejected under 35 U.S.C. 102(b) as being anticipated by JP'10-270336.

As to claim 30, JP discloses (see Figs 2 and 4) a nozzle assembly for applying a liquid to a substrate, wherein the nozzle assembly comprises a nozzle body (2) incorporating a plurality of nozzles (10) located substantially in a line and a substantially vertically extending guide plate (3) having a flat surface and a straight lower edge wherein the nozzles are directed towards the flat surface of the guide plate above the lower edge so that a liquid film forms on the guide plate and flows off over the lower edge, wherein a downwardly widening gap is formed between the nozzle body and the guide plate the widening gap being formed by a flat surface of the nozzle body and the flat surface of the guide plate (see the gap, increasing from top to the bottom, between the flat portion of the nozzle body at section 9 and the inside surface of the plate 3 upon which liquid is directed) which are arranged at an acute angle (30 or 60 degrees which is less than 90 degrees) relative to one another, and wherein the planes of the flat surfaces cross within the nozzle assembly (see Fig 2).

As to claim 34, in Jp'336 the guide plate is attached directly to the nozzle body.

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With respect to claim 44, in JP'336 a mechanism is provided for producing a relative movement between the substrate and the nozzle assembly (see fig 1 for rotating item 103).

With respect to claims 47 and 48, in JP' 336 the guide plate is capable of being wider than the substrate or the nozzles along the line are capable of being spaced by a distance which is greater than the width of the substrate (depending the size of the substrate treated).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 43, 45-46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'10-270336 in view of Matsuyama et al (US 6,364,547).

With respect to claim 43, a guide surface having a hydrophilic surface layer is not taught in JP'336. However, Matsuyama et al teaches the claimed feature (see column 7, lines 52-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a guide surface having a hydrophilic surface layer in JP'336 to prevent the solution from moving around to the front side as taught by Matsuyama et al.

As to claims 45-46 and 49, JP'336 lacks teaching a unit for moving the nozzle assembly, a mechanism for adjusting the spacing between the edge of the plate and the substrate and a pivotal arm attached to the nozzle body and the guide plate. However, in supplying solution to the wafer substrate it is known to attach a nozzle assembly and guide plate to the pivotal arm, include a nozzle moving mechanism for moving the nozzle assembly parallel to the surface of the substrate and a mechanism for adjusting the spacing between the lower edge of the guide plate and the substrate, such as shown by Matsuyama et al (see the 3 dimensional moving mechanisms Figs 2-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach a nozzle assembly and guide plate to the pivotal arm, include a nozzle moving mechanism for moving the nozzle assembly and a mechanism for adjusting the spacing between the lower edge of the guide plate and the substrate to uniformly apply the desired amount of coating onto the substrate.

9. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'10-270336 in view of Rantanen (US 2005/0066889).

JP' 336 lacks teaching a mechanism provided for opening and closing pre-determined nozzles. Rantanen discloses (see Fig 2) a mechanism (nozzle plate 18 closing the nozzles 15 and outlet opening) provided for opening and closing pre-determined nozzles. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mechanism provided for opening and closing pre-determined nozzles, and in particular, the outermost nozzles in JP'336 to control the amount of material dispensed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tucker Phillip can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'YTT' followed by a stylized flourish.

YTT